

## Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

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DIN rail power supply unit 24 V DC/2.5 A, primary switched-mode, 1-phase.

### Product description

QUINT POWER is the powerful 60 - 960 W DC power supply unit for universal use. With its wide-range input, single and three-phase versions, and international approval package, this solution is unrivalled. QUINT POWER provides reliable power supply: generously dimensioned capacitors ensure mains buffering of over 20 ms at full load. Full output power is provided by all three-phase devices, even in the event of a permanent phase failure. The Power Boost power reserve easily starts loads with high inrush currents and ensures that fuses are reliably tripped. Preventive function monitoring diagnoses impermissible operating states and minimizes downtimes in your system. Remote monitoring is provided by an active transistor switching output and a floating relay contact. All devices are idling-proof and short-circuit-proof, and are available with a regulated and adjustable output voltage of 12, 24, and 48 V DC with output currents of 2.5, 5, 10, 20, 30, and 40 A. Power supply units for use in Ex zone 2, uninterruptible solutions, AS-i power supply units, and a QUINT diode complete this comprehensive product range.



### Key commercial data

Packing unit	1 pc
Weight per Piece (excluding packing)	1109.2 GRM
Custom tariff number	85044030
Country of origin	Thailand

### Technical data

#### Dimensions

Width	55 mm
Height	130 mm
Depth	125 mm
Width with alternative assembly	122 mm
Height with alternative assembly	130 mm
Depth with alternative assembly	58 mm

#### Ambient conditions

Degree of protection	IP20
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## Technical data

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 70 °C (> 60 °C derating)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	95 % (at 25 °C, non-condensing)
Noise immunity	EN 61000-6-2:2005

### Input data

Nominal input voltage range	100 V AC ... 240 V AC
Input voltage range	85 V AC ... 264 V AC
	90 V DC ... 350 V DC
AC frequency range	45 Hz ... 65 Hz
Frequency range DC	0 Hz
Current consumption	approx. 0.86 A (120 V AC)
	approx. 0.47 A (230 V AC)
Nominal power consumption	60 W
Inrush surge current	< 20 A (typical)
Power failure bypass	> 30 ms (120 V AC)
	> 130 ms (230 V AC)
Input fuse	5 A (slow-blow, internal)
Choice of suitable fuses	6 A ... 16 A (Characteristics B, C, D, K)
Type of protection	Transient surge protection
Protective circuit/component	Varistor

### Output data

Nominal output voltage	24 V DC $\pm$ 1 %
Setting range of the output voltage	22.5 V DC ... 28.5 V DC
Output current	2.5 A (up to 60°C)
	3.75 A (with POWER BOOST)
Derating	60 °C ... 70 °C (2.5%/K)
Connection in parallel	Yes, for redundancy and increased capacity
Connection in series	Yes
Max. capacitive load	Unlimited
Current limitation	Approx. $I_{BOOST} = 3.75$ A (for short-circuit)
Control deviation	< 1 % (change in load, static 10 % ... 90 %)
	< 2 % (change in load, dynamic 10 % ... 90 %)
	< 0.1 % (change in input voltage $\pm$ 10 %)
Residual ripple	< 10 mV <sub>PP</sub> (with nominal values)
Peak switching voltages nominal load	< 40 mV <sub>PP</sub> (20 MHz)
Maximum power dissipation NO-Load	< 2 W

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## Technical data

### Output data

Power loss nominal load max.	< 8 W
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### General

Net weight	0.85 kg
Operating voltage display	Green LED
Efficiency	> 86 %
Insulation voltage input/output	4 kV AC (type test) 2 kV AC (routine test)
Protection class	I (with PE connection)
MTBF (IEC 61709, SN 29500)	> 500000 h
Mounting position	horizontal DIN rail NS 35, EN 60715
Assembly instructions	Can be aligned: Horizontally 0 mm, vertically 50 mm
Electromagnetic compatibility	Conformance with EMC directive 89/336/EC
Noise emission	EN 50081-2
Standard – Electrical equipment of machines	EN 60204
Standard - Safety of transformers	EN 61558-2-17
Standard - Electrical safety	EN 60950-1/VDE 0805 (SELV) EN 61558-2-17
Shipbuilding approval	Germanischer Lloyd (EMC 2), ABS
Standard – Electronic equipment for use in electrical power installations and their assembly into electrical power installations	EN 50178/VDE 0160 (PELV)
Standard – Safety extra-low voltage	EN 60950-1 (SELV) EN 60204 (PELV)
Standard - Safe isolation	DIN VDE 0100-410 DIN VDE 0106-1010
Standard – Protection against electric shock	DIN 57100-410
Standard – Protection against shock currents, basic requirements for protective separation in electrical equipment	DIN VDE 0106-101
Standard – Limitation of mains harmonic currents	EN 61000-3-2
Standard - Equipment safety	GS (tested safety)
Information technology equipment - safety (CB scheme)	CB Scheme
UL approvals	UL/C-UL Recognized UL 60950 UL/C-UL listed UL 508 UL ANSI/ISA-12.12.01 Class I, Division 2, Groups A, B, C, D (Hazardous Location)
Surge voltage category	III

### Connection data, input

Connection method	Pluggable screw connection
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### Technical data

#### Connection data, input

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3

#### Connection data, output

Connection method	Pluggable screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm

#### Signaling

Output name	DC OK active
Output description	$U_{OUT} > 0.9 \times U_N$ : High signal
Maximum switching voltage	$\leq 24$ V
Output voltage	+ 24 V DC (Signal)
Maximum inrush current	$\leq 40$ mA
Continuous load current	$\leq 40$ mA
Status display	"DC OK" LED green
Note on status display	$U_{OUT} < 0.9 \times U_N$ : LED flashing
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Tightening torque, min	0.5 Nm
Tightening torque max	0.6 Nm
Screw thread	M3
Output name	DC OK floating

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## Technical data

### Signaling

Output description	Relay contact, $U_{OUT} > 0.9 \times U_N$ ; Contact closed
Maximum switching voltage	$\leq 30$ V AC/DC
Maximum inrush current	$\leq 1$ A
Continuous load current	$\leq 1$ A
Status display	"DC OK" LED green

## Classifications

### eCl@ss

eCl@ss 4.0	27040702
eCl@ss 4.1	27040702
eCl@ss 5.0	27049002
eCl@ss 5.1	27049002
eCl@ss 6.0	27049002
eCl@ss 7.0	27049002
eCl@ss 8.0	27049002

### ETIM

ETIM 2.0	EC001039
ETIM 3.0	EC001039
ETIM 4.0	EC000599
ETIM 5.0	EC002540

### UNSPSC

UNSPSC 6.01	30211502
UNSPSC 7.0901	39121004
UNSPSC 11	39121004
UNSPSC 12.01	39121004
UNSPSC 13.2	39121004

## Approvals

### Approvals

#### Approvals

UL Recognized / UL Listed / cUL Recognized / GOST / cUL Listed / GL / DNV / IECCEB Scheme / cUL Listed / cULus Recognized / cULus Listed / null / cULus Listed / null / null / null / null / cULus Listed / cULus Listed / null / null / null / null

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## Approvals

Ex Approvals


UL Listed / cUL Listed / null / cUL Listed / cULus Listed / null / cULus Listed

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Approvals submitted


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## Approval details

UL Recognized 

UL Listed 


cUL Recognized 

GOST 

cUL Listed 

GL


DNV

IECEE CB Scheme 

cUL Listed 

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## Approvals

cULus Recognized 

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## Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

### Accessories

#### Accessories

#### Assembly adapter

#### Assembly adapters - UWA 182/52 - 2938235



Universal wall adapter

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#### Assembly adapters - QUINT-PS-ADAPTERS7/1 - 2938196



Assembly adapter for QUINT-PS... power supply on S7-300 rail

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#### Assembly adapters - QUINT-PS-ADAPTERS7/2 - 2938206



Assembly adapter for QUINT POWER 10A on S7-300 rail

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#### Mounting rail adapter

#### Assembly adapters - UTA 107 - 2853983



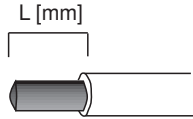
Universal DIN rail adapter

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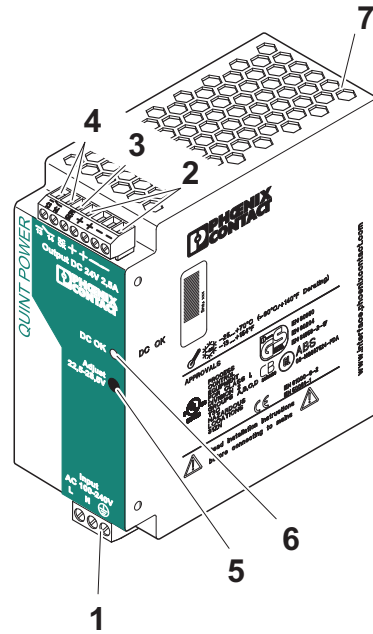
### Drawings

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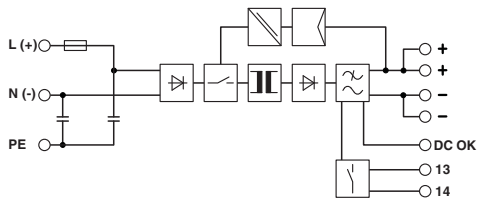
Dimensioned drawing



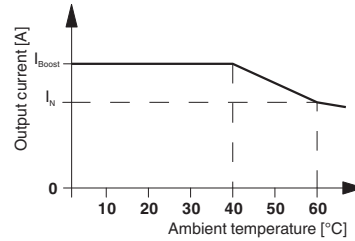
Product drawing



Block diagram

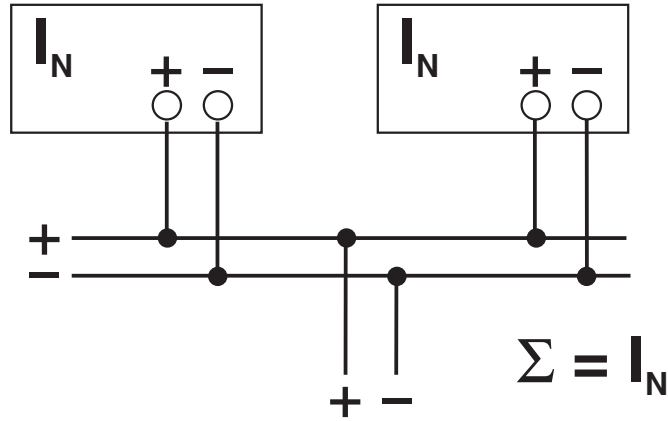


Diagram

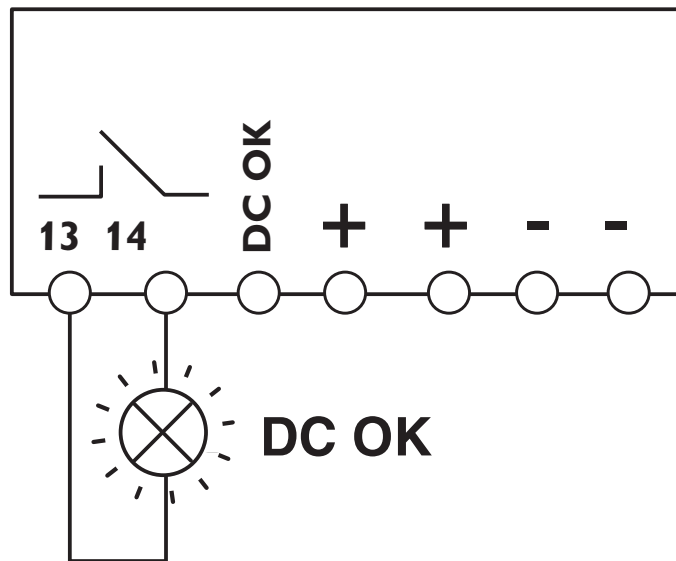


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Circuit diagram



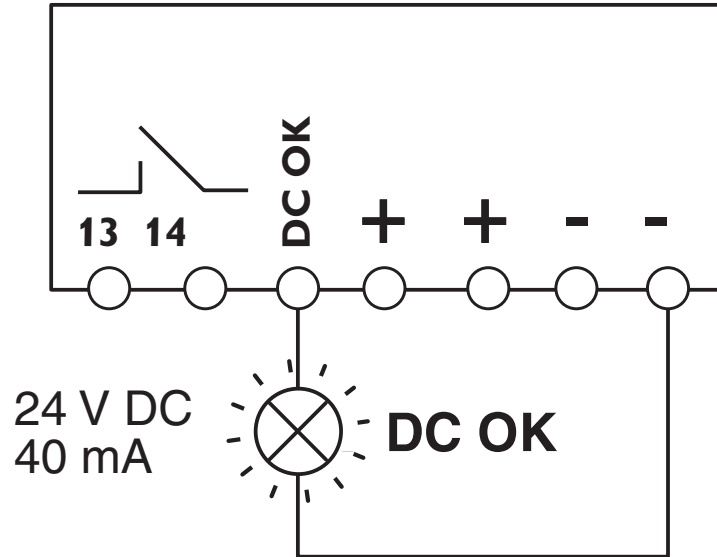
Circuit diagram



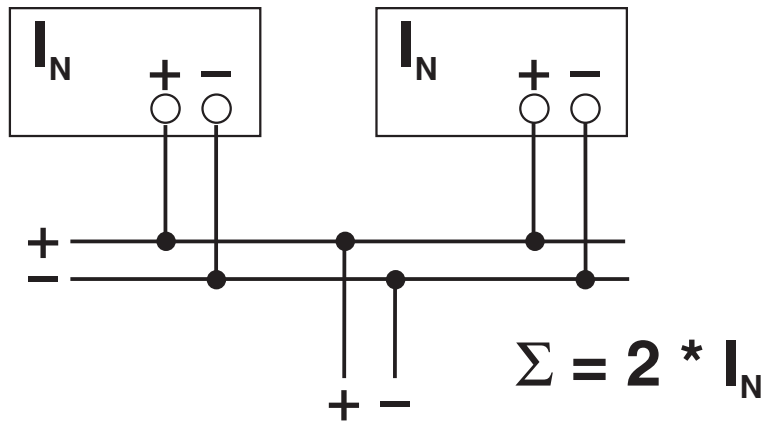
max.  
30 VAC/DC, 1A

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Circuit diagram

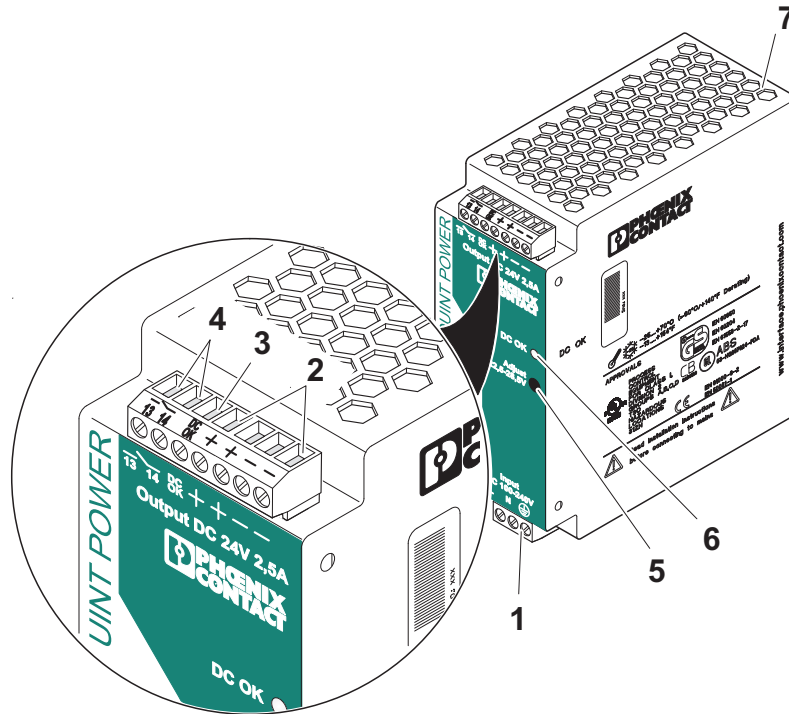


Circuit diagram

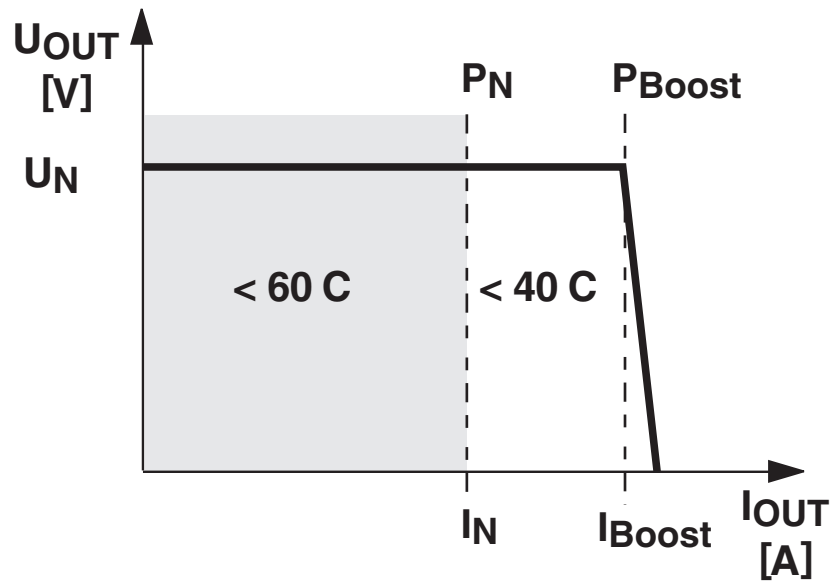


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Product drawing



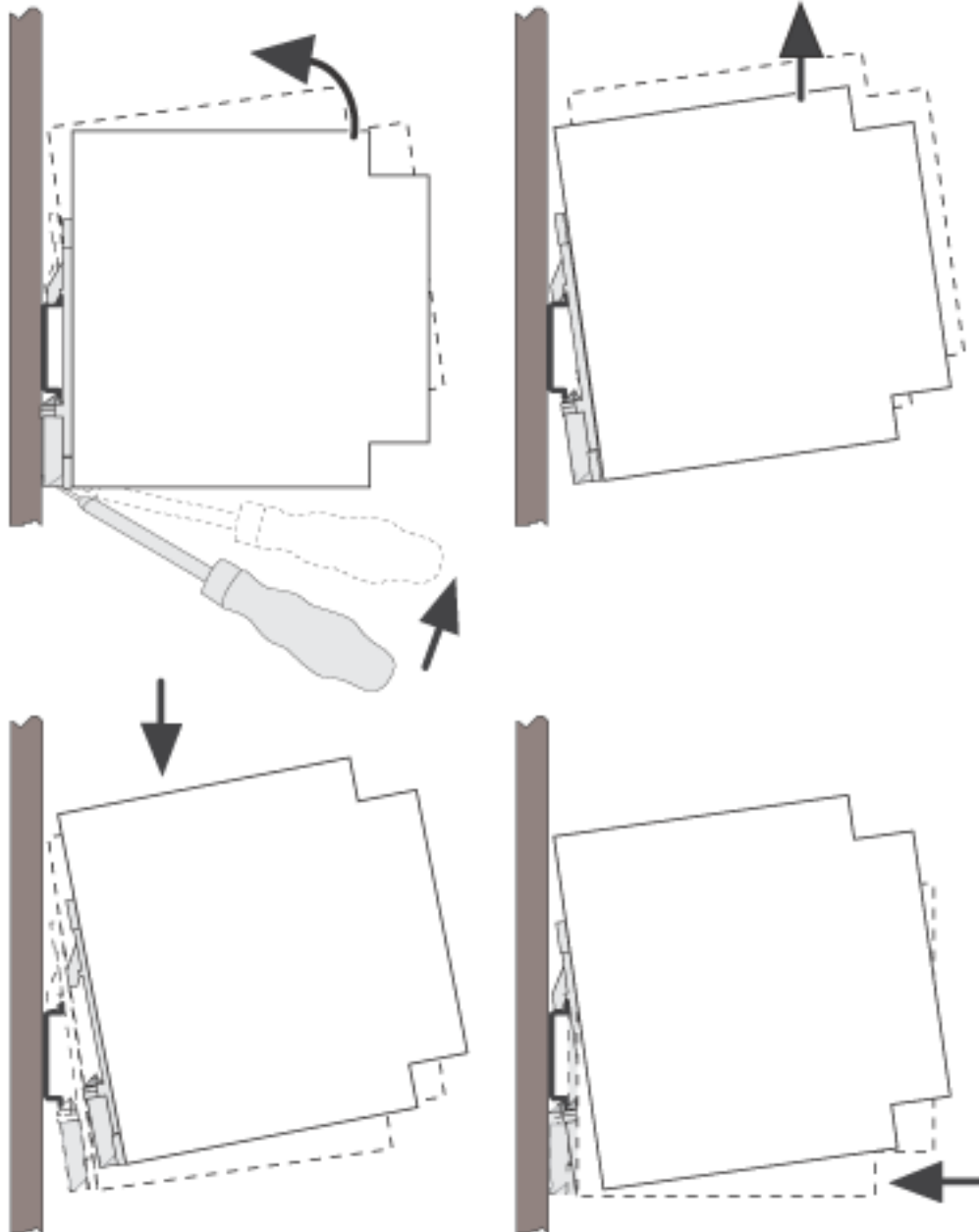
Diagram



POWER BOOST

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Schematic diagram



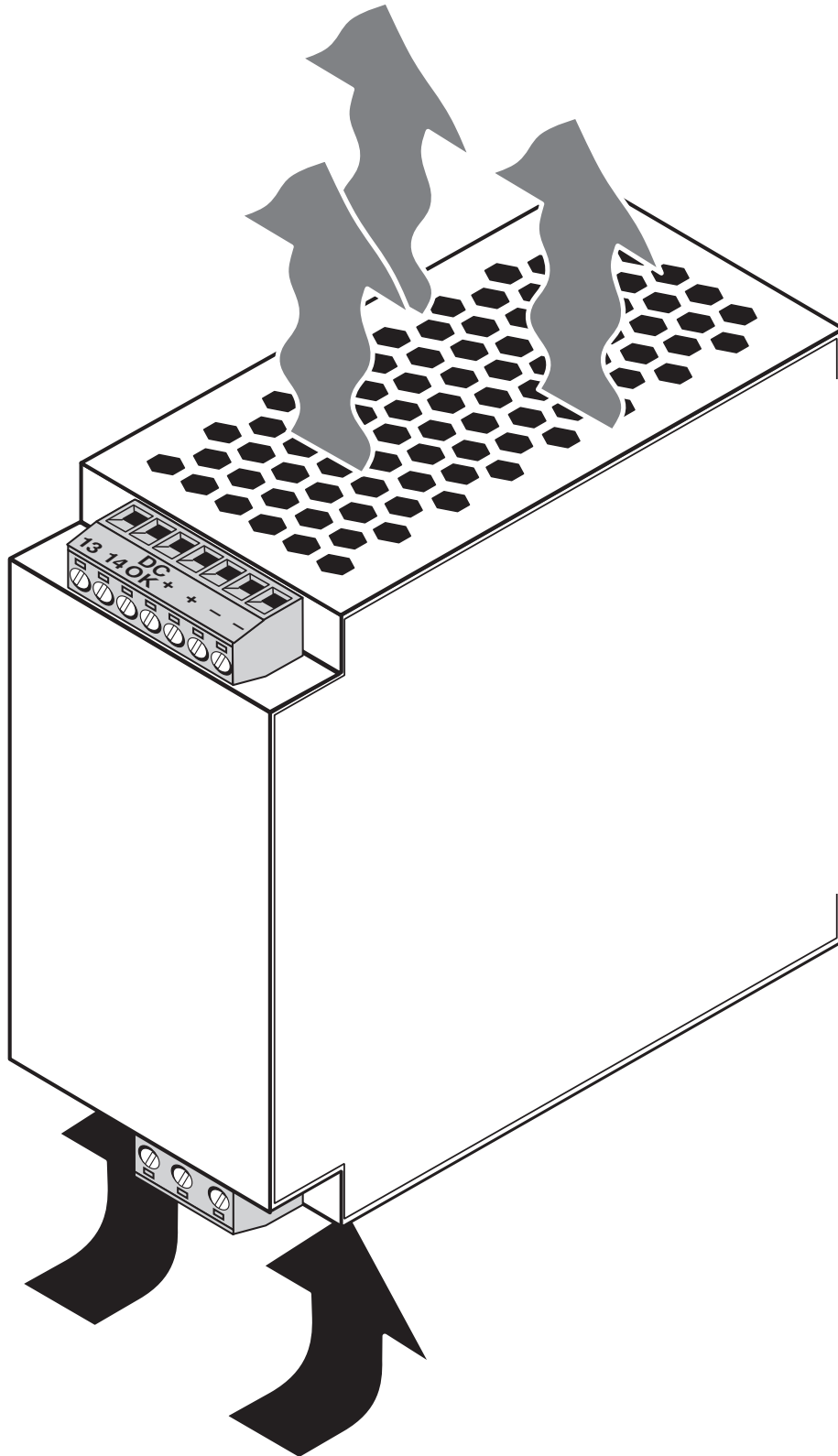
## Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

Schematic diagram



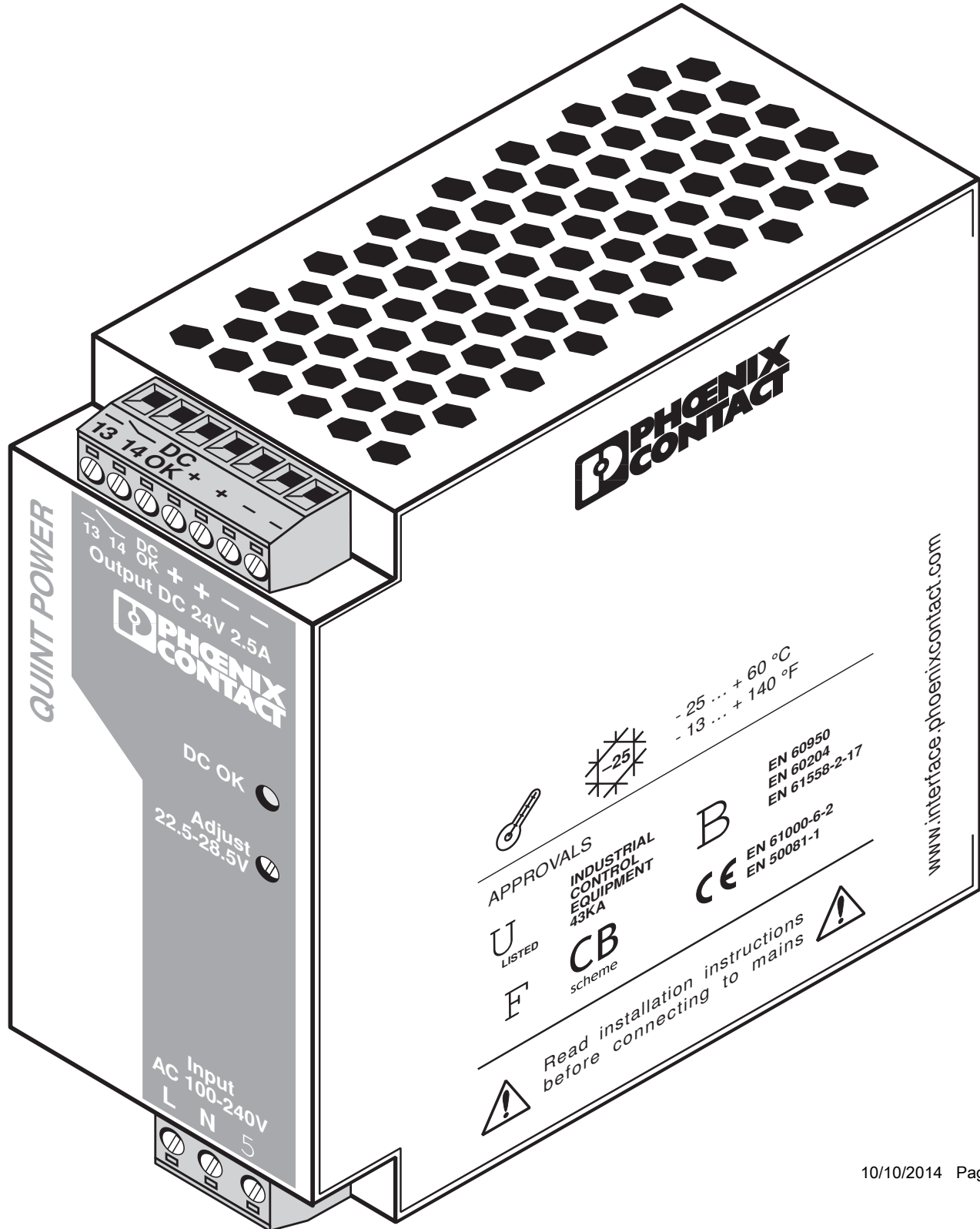
# Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

Schematic diagram



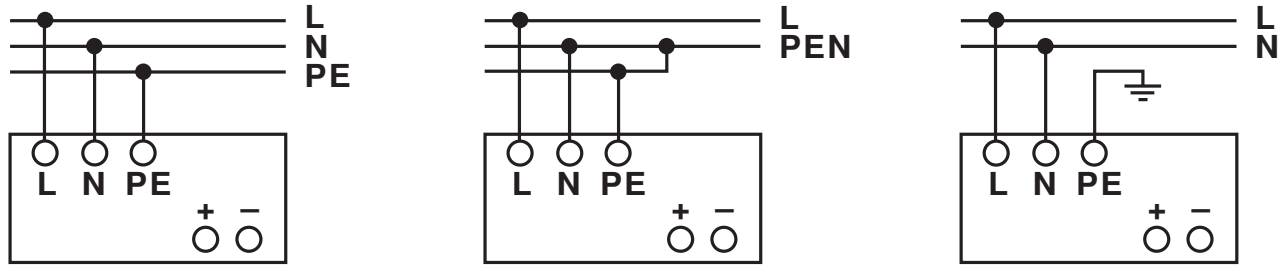
# Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

Product drawing

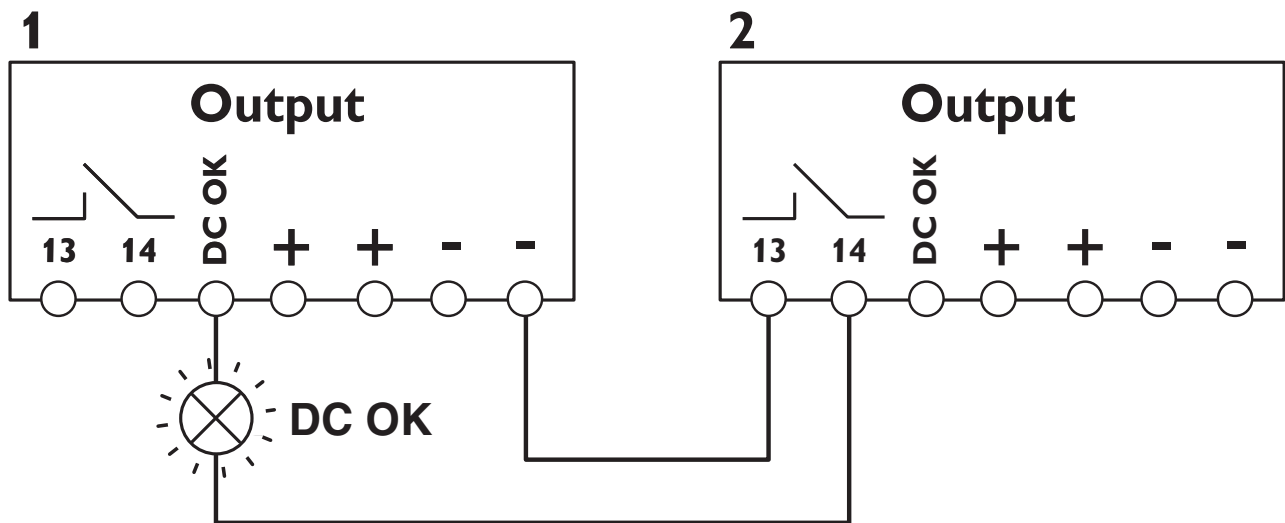


# Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

Connection diagram

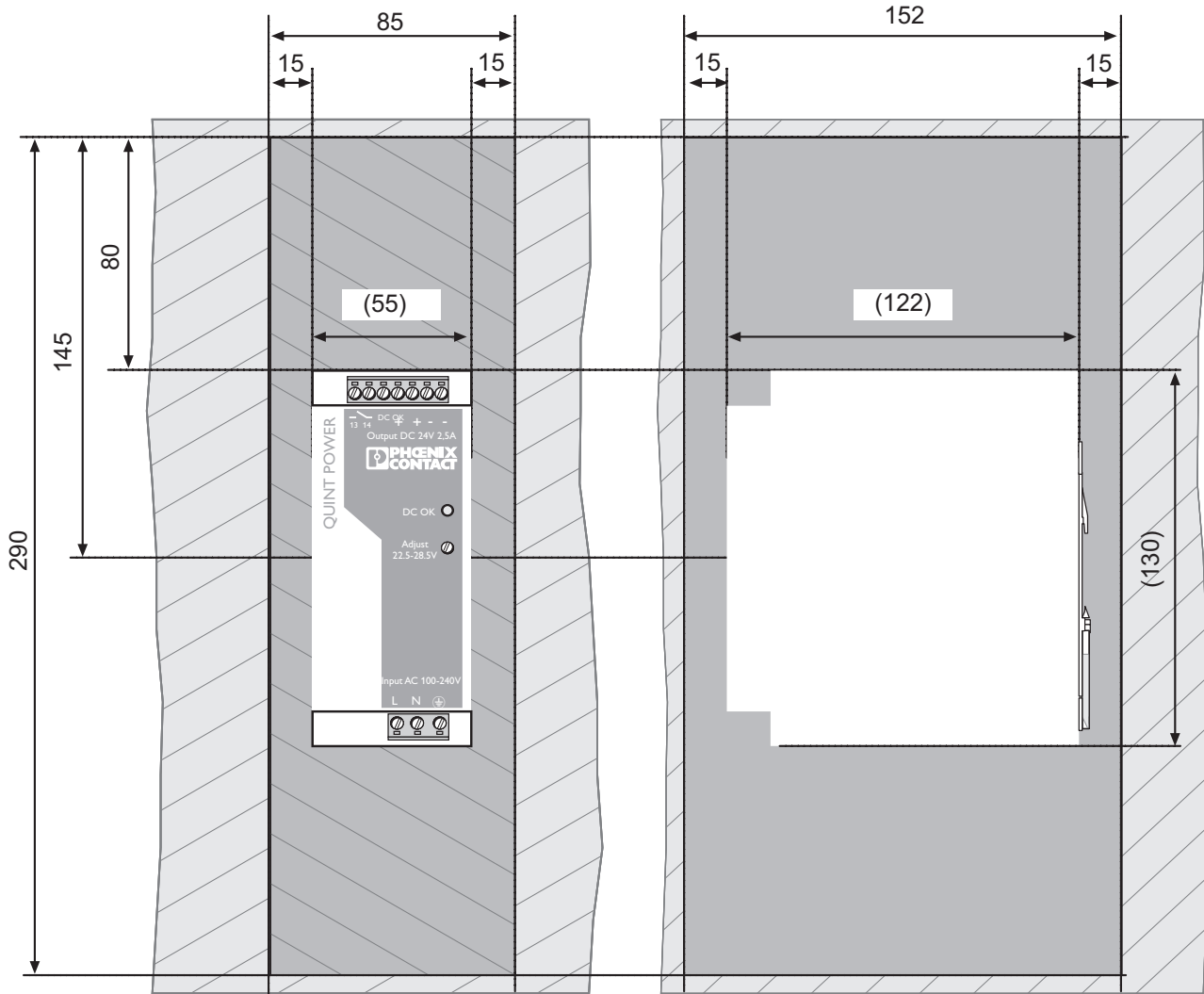


Circuit diagram



# Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

Dimensioned drawing



# Power supply unit - QUINT-PS-100-240AC/24DC/ 2.5 - 2938578

Connection diagram

